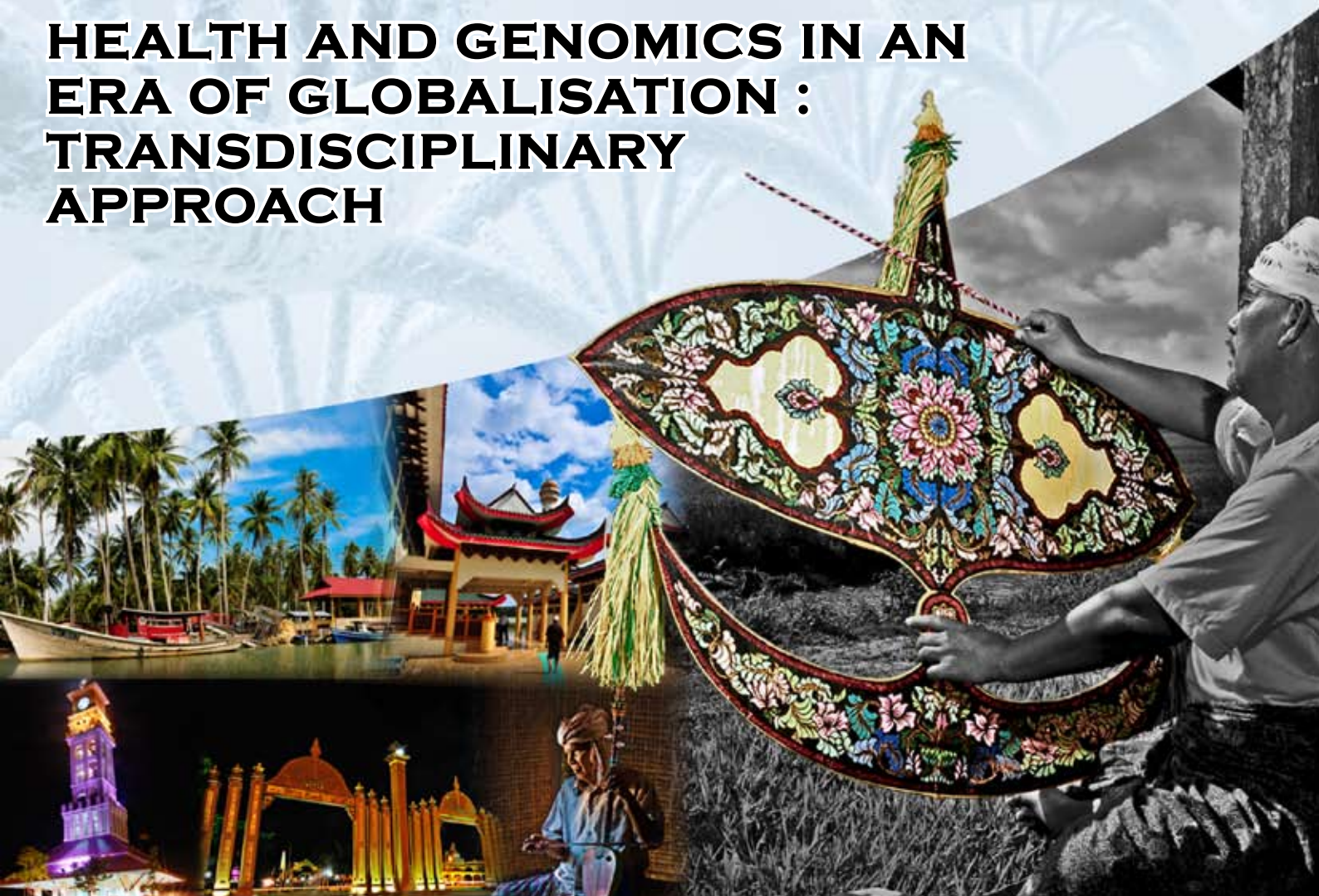


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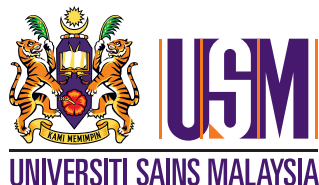
**HEALTH AND GENOMICS IN AN
ERA OF GLOBALISATION :
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A Study of Paraoxonase (PON-1) Activity and Concentration in Coronary Artery Disease Patients in Kuantan, Pahang

Nor Zamzila Abdullah₁, Nurul Ashikin Muhammad Musa₁, Norlelawati A. Talib₁ and Nik Nur Fatnoon Nik Ahmad₂

Introduction: Paraoxonase 1 (PON1) is a high density lipoprotein (HDL) associated enzyme that is known to inhibit oxidative modification of low density lipoprotein (LDL), thus implicated in the pathogenesis of atherosclerosis and coronary artery disease (CAD). It has been suggested that the variability in this enzyme activity is attributed to polymorphism in PON-1 gene. Nevertheless, even within the same genotype, PON-1 activity and concentration has been shown to vary widely between the different individuals. Therefore, recent studies in various populations have emphasized on the importance of measuring the PON1 activity and concentration in assessing the risk of CAD. The data of such study is however scarce in Malaysia.

Objective: The aim of this study was to compare the PON-1 activities and concentration between the healthy controls and CAD patients.

Methods: A comparative cross sectional study was carried out on 187 CAD patients in Tengku Ampuan Afzan Hospital, Kuantan and 188 healthy controls. Serum samples were analyzed for PON-1 activities towards paraoxon and phenylacetate as well as for HDL-cholesterol. PON1 concentration was expressed as PON1 activity per mmol of HDL.

Results: Serum PON-1 activities as well as concentration were found to be lower in CAD patients than in the healthy controls but the results were not significant ($p > 0.05$).

Conclusion: Our finding suggested that PON1 activities and concentration were similar between healthy control and CAD patients in Kuantan, Pahang. A multicentre study may be required to confirm our findings in Malaysian population.